

DEPARTMENT of ENVIRONMENTAL SERVICES
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: UNNAMED PD (MUSQUASH BK)	Lake Area (ha):	21.33
Town: HUDSON	Maximum depth (m):	3.0
County: Hillsborough	Mean depth (m):	1.0
River Basin: Merrimack	Volume (m ³):	213500
Latitude: 42°43'10" N	Relative depth:	0.6
Longitude: 71°23'43" W	Shore configuration:	1.47
Elevation (ft): 140	Areal water load (m/yr):	21.86
Shore length (m): 2400	Flushing rate (yr ⁻¹):	21.90
Watershed area (ha): 971.2	P retention coeff.:	0.47
% watershed ponded: 0.4	Lake type:	natural

BIOLOGICAL:

8 February 1993

3 September 1992

DOM. PHYTOPLANKTON (% TOTAL)	#1	FILAM. BL-GR SPP. 35%	DINOBRYON 25%
	#2	PERIDINIUM 20%	CERATIUM 25%
	#3	(ALL ALGAE SPARSE)	MICROCYSTIS 10%
PHYTOPLANKTON ABUNDANCE (cells/mL)			1225
CHLOROPHYLL-A (µg/L)			75.85
DOM. ZOOPLANKTON (% TOTAL)	#1	SYNCHAETA 21%	NAUPLIUS LARVA 44%
	#2	CILIATE SPP. 21%	KELLICOTTIA 21%
	#3		BOSMINA 9%
ROTIFERS/LITER		19	197
MICROCRUSTACEA/LITER		14	482
ZOOPLANKTON ABUNDANCE (#/L)		42	733
VASCULAR PLANT ABUNDANCE			Very abundant
SECCHI DISK TRANSPARENCY (m)			1.0
BOTTOM DISSOLVED OXYGEN (mg/L)		2.3	0.2
BACTERIA (E. coli, #/100 ml)	#1		9
	#2		
	#3		

SUMMER THERMAL STRATIFICATION:

not stratified

Depth of thermocline (m): None
Hypolimnion volume (m³): None
Anoxic volume (m³): 34000

CHEMICAL:Lake: UNNAMED PD (MUSQUASH BK)
Town: HUDSON

	8 February 1993		3 September 1992		
DEPTH (m)	1.5		1.5		
pH (units)	6.4		6.4		
A.N.C. (Alkalinity)	13.6		17.3		
NITRATE NITROGEN	0.11		< 0.02		
TOTAL KJELDAHL NITROGEN	0.49		0.65		
TOTAL PHOSPHORUS	0.023		0.054		
CONDUCTIVITY (μ mhos/cm)	122.6		81.2		
APPARENT COLOR (cpu)	55		130		
MAGNESIUM			1.06		
CALCIUM			6.5		
SODIUM			6.8		
POTASSIUM			0.58		
CHLORIDE	22		12		
SULFATE	8		3		
TN : TP	26		12		
CALCITE SATURATION INDEX			2.9		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1992

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	5	6	6	17	Eutro.

COMMENTS:

1. This is a small (less than 1 acre) area of open water located within a marsh along Musquash Brook. It is classified as a wetland and not a pond in the lakes database.
2. If classified as a pond, this wetland would be the most eutrophic of the unstratified ponds classified to date. It received one trophic point less than the maximum possible.
3. Soundings were not taken and a bathymetric chart was not constructed because of the shallowness of the pond and the plant abundance. The map on the following page depicts the area of open water and the location of the deepest spot observed (10 feet).

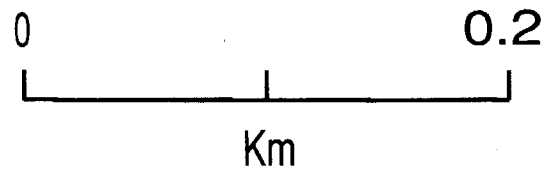
Unnamed Pond (Musquash Brook)

Hudson

N

x 10'

111-298



[illegible]

COMMENTS: The dissolved oxygen was unexplainably low in the surface waters.

*Dissolved oxygen values are in mg/L

Unnamed Pond (Musquash Brook)

Hudson

Open
Water

N,Y,P,L,B,U,C,W,D

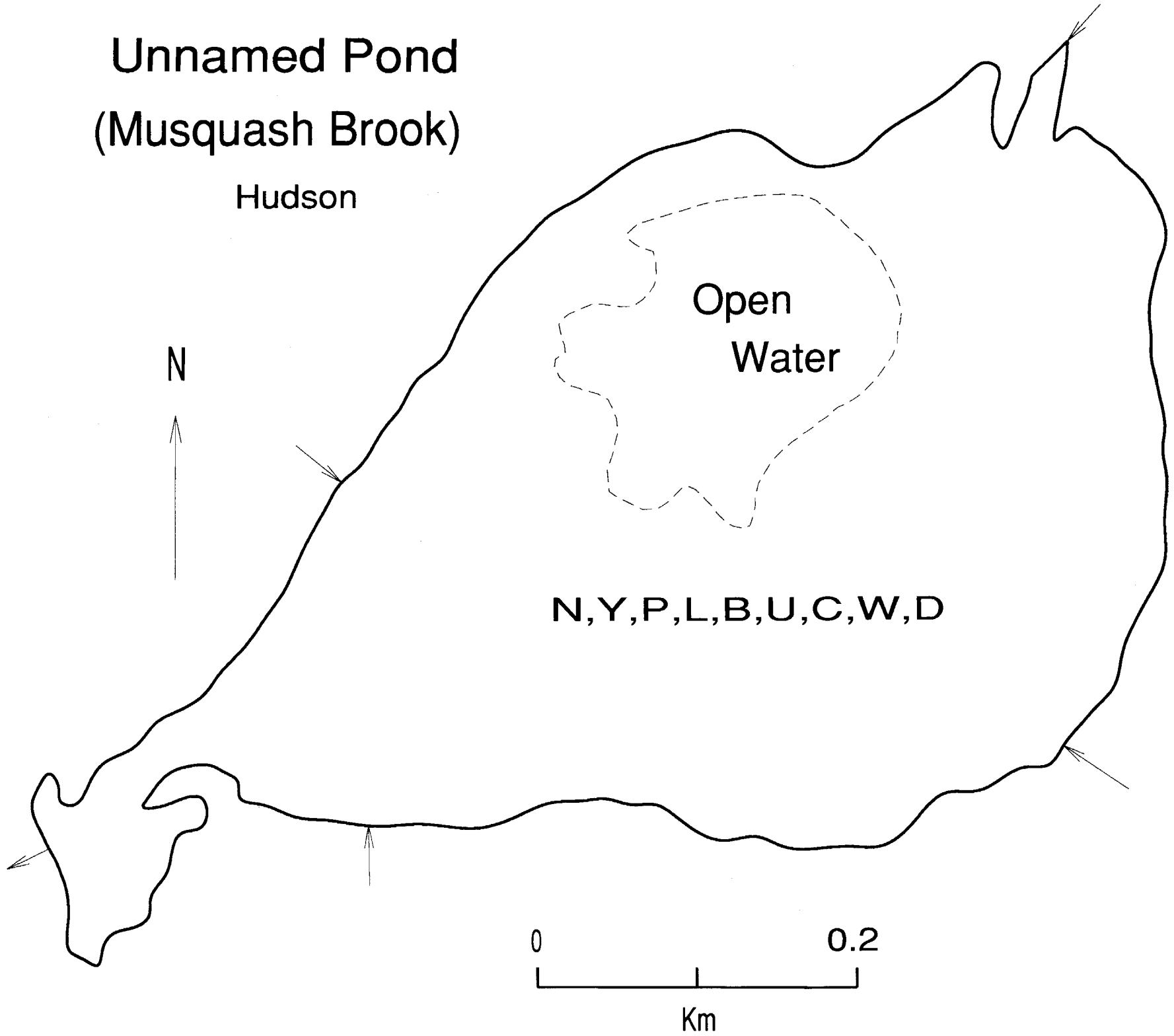
N

111-300

0

0.2

Km



[illegible]